Drayton

Digistat+1 & Digistat+1RF

Room Thermostat

Models:

RF710/22190/22192

Invensys Controls Europe
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User Guide

What is a room thermostat?

... An explanation for householders

A room thermostat simply switches the heating system on and off as necessary. It works by sensing the air temperature, switching on the heating when the air temperature falls below the thermostat setting, and switching it off once this set temperature has been reached.

Turning a room thermostat to a higher setting will not make the room heat up any faster. How quickly the room heats up depends on the design of the heating system, for example, the size of boiler and radiators.

Neither does the setting affect how quickly the room cools down. Turning a room thermostat to a lower setting will result in the room being controlled at a lower temperature, and saves energy.

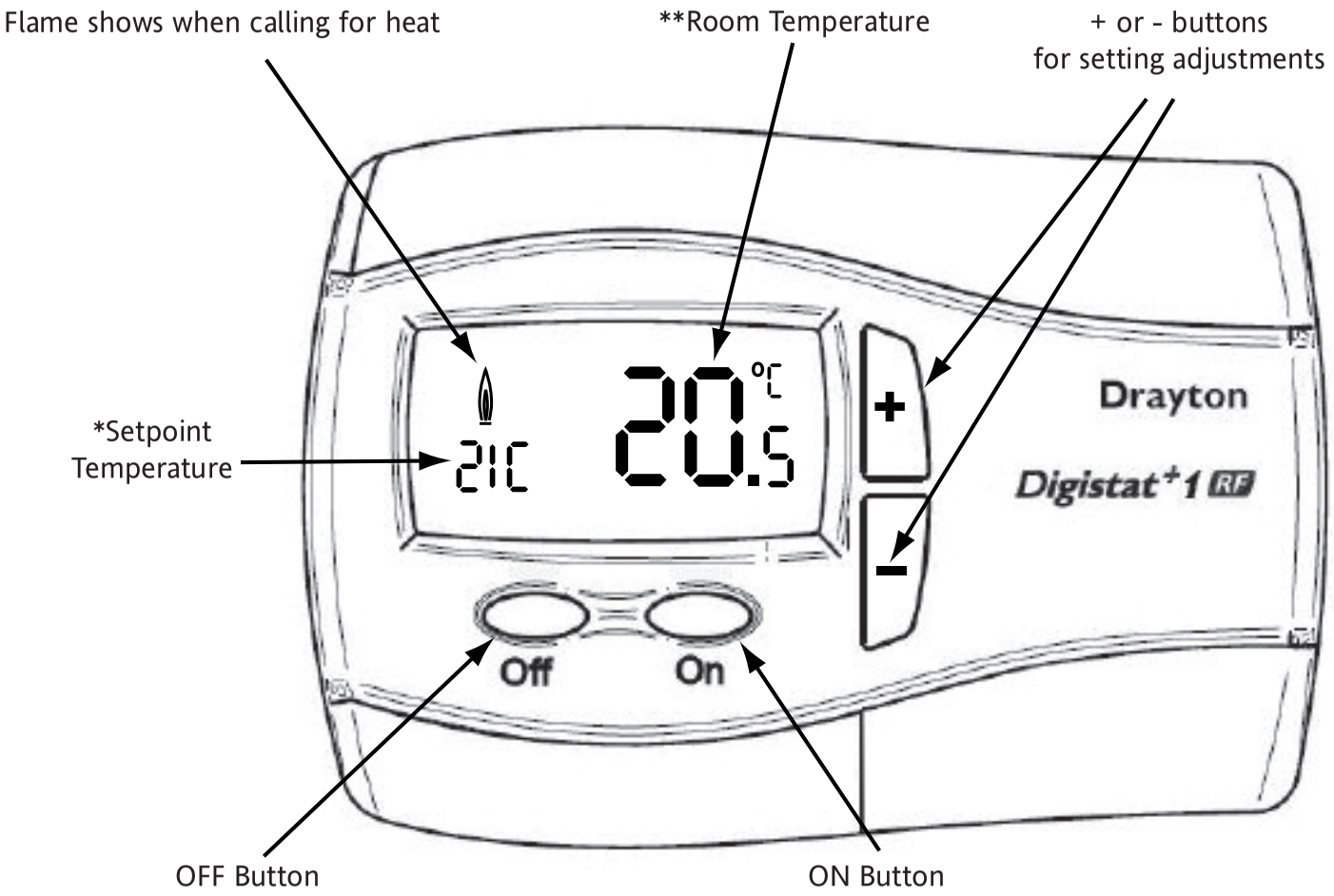
The heating system will not work if a time switch or programmer has switched it off.

The way to set and use your room thermostat is to find the lowest temperature setting that you are comfortable with, and then leave it alone to do its job. The best way to do this is to set the room thermostat to a low temperature – say 18°C – and then turn it up by one degree each day until you are comfortable with the temperature. You won't have to adjust the thermostat further. Any adjustment above this setting will waste energy and cost you more money.

If your heating system is a boiler with radiators, there will usually be only one room thermostat to control the whole house. But you can have different temperatures in individual rooms by installing thermostatic radiator valves (TRVs) on individual radiators. If you don't have TRVs, you should choose a temperature that is reasonable for the whole house. If you do have TRVs, you can choose a slightly higher setting to make sure that even the coldest room is comfortable, then prevent any overheating in other rooms by adjusting the TRVs.

Room thermostats need a free flow of air to sense the temperature, so they must not be covered by curtains or blocked by furniture. Nearby electric fires, televisions, wall or table lamps may prevent the thermostat from working properly.

Controls and Display Layout



* Temperature displayed while adjusting the settings. Once adjustment is complete and after 5 seconds this will disappear. When the OFF button is pushed the word 'OFF' is displayed here.

** When the OFF button is pushed the OFF temperature is displayed here.

FEATURES

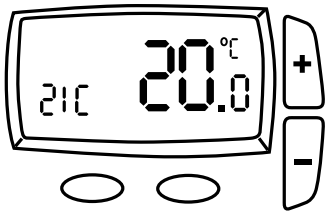
This product has the following user adjustable settings

- Required room temperature (temperature setpoint)
- Off temperature setting
- On temperature setting
- Minimum & Maximum temperature settings

Simple Setting or Operating

To set the required room temperature

- **The display normally shows the current room temperature to within 0.5°C**
- **To adjust the required temperature, press the '+' button to increase the temperature setpoint or the '-' button to reduce the temperature setpoint. The LCD will display the temperature setpoint as it is being adjusted in the bottom left of the display.**

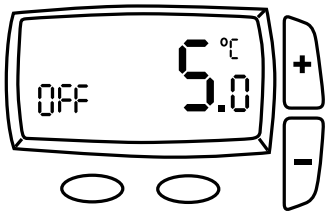


- **After a few seconds the display will return to normal operation and will display the actual room temperature only.**

While adjusting the temperature during normal operation, when you reach the maximum or minimum possible setting the setpoint will flash to indicate you cannot adjust the product further.

To turn the Thermostat Off

- **Press the 'OFF' button and the display will show 'OFF' and the OFF setpoint.**

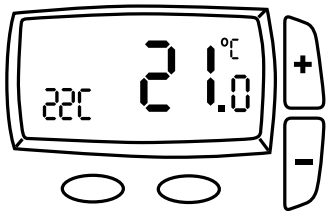


- **If the room temperature falls below the off setpoint temperature, the product will control at the OFF temperature.**

To turn the Thermostat On

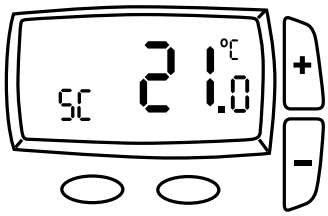
You can either:

1. **Press the ‘ON’ button and the display will show the On setpoint and the room temperature.**



After a few seconds the On setpoint will disappear from the display and the product will control at the On setpoint temperature.

2. **Press the ‘+’ or ‘-’ button and the display will show the Off setpoint and the room temperature.**



Now press the ‘+’ or ‘-’ buttons until the required setpoint temperature is shown.

After a few seconds the setpoint will disappear from the display and the product will control at the new temperature.

Note: The Digistat+1 Room Thermostat will only control the heating when the Timeswitch or Programer is in a timed On period.

ADVANCED FEATURES

Adjusting the Setpoint using the On and Off buttons

The 'Off' button can also be used to adjust the temperature setting to a setback level and the 'On' button can also be used to adjust the temperature to a comfort level.

The setback feature is designed for those interested in saving energy and have a varied lifestyle. It means that when leaving the house for a shopping trip or a night out, the user can adjust the temperature to a lower level by pressing the 'Off' button, with the comfort level restored on their return by pushing the 'On 'button.

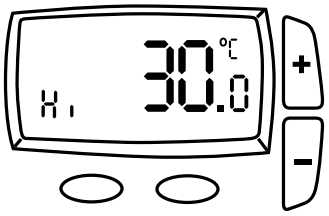
NB. This feature can be used to quickly adjust the temperature setpoint to a setback temperature for economy operation if for example, 'Off' Temperature = 15°C and the On temperature can be used to quickly adjust the temperature setpoint to a comfort temperature if for example 'On' Temperature = 22°C.

To change the user adjustable settings

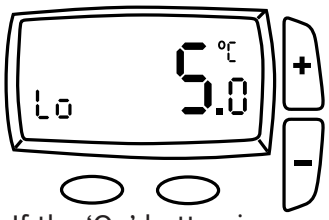
A range of user settings can be adjusted,

1. Maximum Temperature
2. Minimum Temperature
3. Off Temperature
4. On Temperature

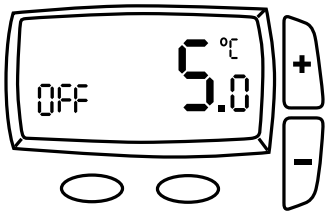
- To enter the 'User' menu, press and hold the 'On & Off' button for more than 5 seconds – the display will show 'Hi' and the maximum setpoint.



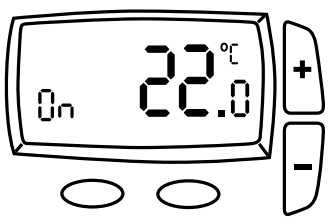
- If the 'On' button is pressed the display will show 'Lo' and the minimum setpoint.



- If the 'On' button is pressed again the display will show 'OFF' and the OFF setpoint.

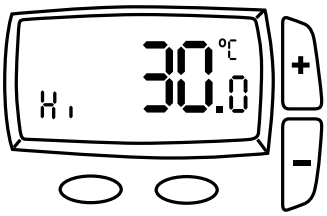


- If the 'On' button is pressed again the display will show On' and the On setpoint.



Changing the Maximum Temperature Setting

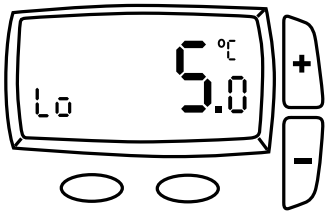
- To adjust the maximum temperature enter the user menu as described previously, then press the 'On' button until 'Hi' is shown.



- Press the '+' button to increase the maximum temperature setting (max. 30°C) and the '-' button to reduce the maximum temperature setting (min. 5°C or min temp setting).

Changing the Minimum Temperature Setting

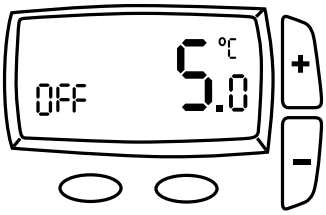
- To adjust the minimum temperature enter the user menu as described previously, then press the 'On' button until 'Lo' is shown.



- Press the '+' button to increase the minimum temperature setting (max. 30°C or max. temp. setting) and the '-' button to reduce the minimum temperature setting (min. 5°C).

Changing the Off Temperature

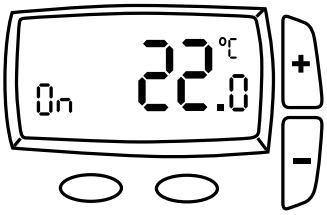
- To adjust the 'Off' temperature enter the user menu as described previously, then press the 'On' button until 'Off' is shown.



- Press the '+' button to increase the Off temperature (max. 16°C or max. temp. setting) and the '-' button to reduce the Off temperature (min. 5°C or min. temp. setting).

Changing the On Temperature

- To adjust the 'On' temperature enter the user menu as described previously, then press the 'On' button until 'On' is shown.



- Press the '+' button to increase the On temperature (max. 30°C or max. temp. setting) and the '-' button to reduce the On temperature (min. 5°C or min. temp. setting).

While adjusting the settings within the menu, when you reach the maximum or minimum possible setting the display will flash to indicate you cannot adjust the product further, e.g. you cannot set the on higher than the maximum temperature setting.

To return to normal operation, either press the 'on & off' buttons for more than 5 seconds or wait for 1 minute and it will return automatically.

TAMPER PROOFING (All Models)

To tamper proof the product i.e. prevent unauthorised adjustment of the product set the Min and Max temperatures to the same desired value.

FAULT DIAGNOSIS (All Models)

If the display shows E1, the following faults could have occurred

1. Internal temperature sensor has failed.
2. Ambient temperature is outside product operating temperature range.

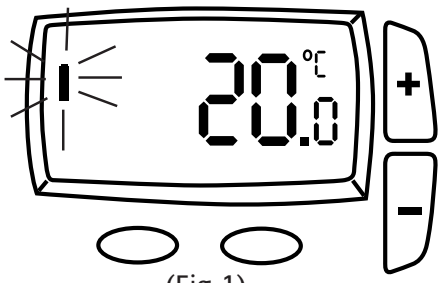
BATTERY REPLACEMENT (All models)

How do I know when to change the batteries.

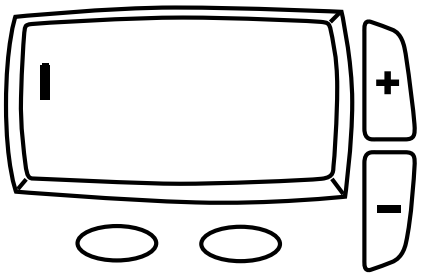
When the batteries start to run low a battery icon will flash in the display, to indicate “low battery” during this time the Digistat +1RF will function normally (see fig 1).

Please replace batteries with 2 x 1.5V IEC LR6 (AA) Alkaline batteries.

When the battery icon alone is shown in the display, the batteries are completely exhausted and the Digistat +1RF will cease to function (see fig 2). Re-activate by replacing the batteries.



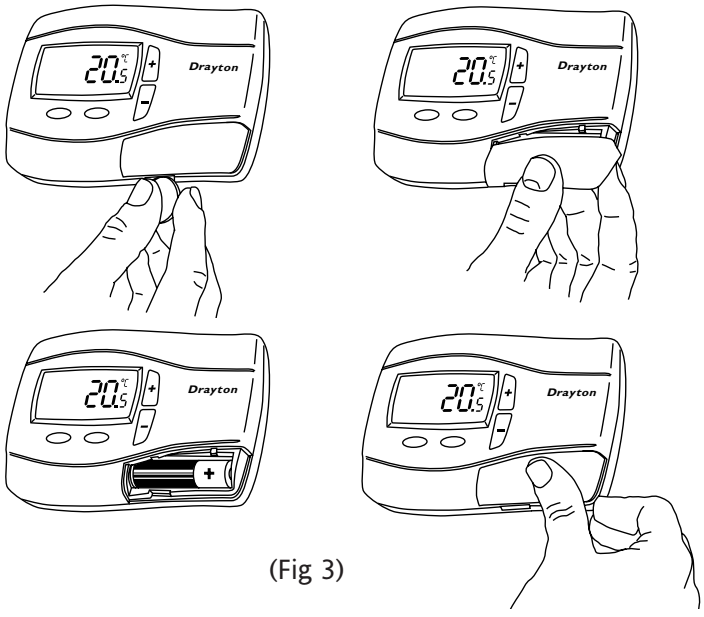
(Fig 1)



(Fig 2)

How to replace the batteries see fig 3.

Remove the battery cover using a coin. Replace the spent batteries with 2 x 1.5V IEC LR6 (AA) Alkaline batteries ensuring correct orientation. Replace the battery cover pressing fully home.



(Fig 3)

RF PRODUCT ONLY

SCR RECEIVER (RF Model only)

SCR (Receiver) Normal Operating Mode

- Once the 'Wireless System' has been commissioned, there should be little need for any user interaction with the SCR.
- During normal operation the red and green LEDs will occasionally be on, these signify the following;

  Green LED

  The green LED will be on when there is a demand for heating, and off when there is no demand.

  Red LED

  The red LED will flash for 7 seconds, approximately every 5 minutes. This denotes that a radio signal is being received from the Digistat+RF unit.

Situations Requiring Attention

Red LED continually flashing

- This denotes that the batteries in the Digistat+RF unit are approaching the end of their life (see 'battery replacement').

Red LED continually on

- This denotes that the SCR has been unable to receive a radio signal from the Digistat+RF unit. This may be caused by the batteries being dead (see 'battery replacement') or some temporary interference with the radio signal.
- To resend and test the signal, go to the Digistat+1RF unit and remove the batteries, after a few seconds (the display will go blank) refit the batteries and then reset to your desired temperature. If the radio signal has been successfully transmitted and received, the red LED will flash for 7 seconds then go off.
- If the red LED stays on, there may be some other fault that will require the attention of a heating engineer/electrician.

Manual Overide

- The heating can be manually switched on and off by using the 'OVERRIDE' button on the SCR in a fault situation, even though the red LED will stay on until a satisfactory signal is reinstated.
- Once the SCR receives a satisfactory signal again, it will automatically reset itself for normal operation.

Proper Battery Recycling

Electronic devices and batteries, rechargeable or not, should not be disposed of into ordinary household waste. Instead, they must be recycled properly to protect the environment and cut down the waste of precious resources. Your local waste management authority can supply details concerning the proper disposal of batteries.

In compliance with the EU Directive 2006/66/EC, the button cell battery located on the printed circuit board inside this product, can be removed at the end of product life, by professional personnel only.